



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/008,973	11/08/2001	Yumiko Tsubo	NECN 19.154	5827
26304	7590	03/17/2004	EXAMINER	
KATTEN MUCHIN ZAVIS ROSENMAN			HOGANS, DAVID L	
575 MADISON AVENUE			ART UNIT	
NEW YORK, NY 10022-2585			PAPER NUMBER	
			2813	

DATE MAILED: 03/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/008,973

Applicant(s)

TSUBO, YUMIKO

Examiner

David L. Hogans

Art Unit

2813

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

This Office Action is in response to the Amendment filed on November 25, 2003.

#### ***Status of Claims***

Claims 1-10 are pending.

#### ***Drawings***

1. The drawings were received on November 25, 2003. These drawings are acceptable.

#### ***Claim Rejections - 35 USC § 112***

The rejection of Claims 5, 6 and 8-10 under 35 U.S.C. § 112, second paragraph, has been withdrawn pursuant to the Amendment filed on November 25, 2003.

#### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1 and 4-7 are rejected under 35 U.S.C. 102(e) as being anticipated by 6,404,466 to Miyahara.

The applied reference has a common assignee with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome

either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

In reference to Claims 1 and 4, Miyahara teaches:

- A thin-film-transistor liquid-crystal-display (TFT-LCD) device comprising a plurality of pixels arranged in an array and each including a TFT (100 or 200) and an associated pixel electrode (3) made of a transparent material, a plurality of scanning lines (1a or 1b) each disposed for a row of said pixels for activating said TFTs in said pixels arranged in the corresponding row, a plurality of data lines (2a or 2b) each disposed for a column of said pixels for supplying data signals via said TFTs to said pixel electrodes in said pixels arranged in the corresponding column, wherein each of said pixels further includes a shield member (1a, 4 and 5 or 1a and 102) made of a conductive material, electrically connected (13 or 101a or 101b) to said pixel electrode (3) and extending along an entirety of a periphery of said pixel electrode. (See columns 3-5 lines 20-67 and Figures 3-10)

In reference to Claim 5, Miyahara teaches:

- wherein said shield member (5) and said scanning line (1b) have increased width projections overlapping with each other (noting that in transistor area 100 a

projection of shield member 5 overlaps a projection 11 of 1b) (See columns 3-5 lines 20-67 and Figures 3-10)

In reference to Claim 6, Miyahara teaches:

- wherein said shield member (102) and said pixel electrode (3) are connected via at least one through-hole (101a or 101b) disposed in an area for said increased width projections (See columns 3-5 lines 20-67 and Figures 3-10)

In reference to Claim 7, Miyahara teaches:

- wherein said TFT (101a) has a channel region extending parallel to or normal to said scanning line (1b) (See columns 3-5 lines 20-67 and Figures 3-10)

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0,555,100 to Ishiguro et al. in view of 5,847,792 to Kobayashi et al.

Ishiguro et al. teaches a thin-film-transistor liquid-crystal-display (TFT-LCD) device comprising a plurality of pixels arranged in an array and each including a TFT

Art Unit: 2813

(224) and an associated pixel electrode (214 or 314) made of a transparent material (ITO), a plurality of scanning lines (202 or 302) each disposed for a row of said pixels for activating said TFTs in said pixels arranged in the corresponding row, a plurality of data lines (207 or 307) each disposed for a column of said pixels for supplying data signals via said TFTs to said pixel electrodes in said pixels arranged in the corresponding column, wherein each of said pixels further includes a shield member (308 or 310) made of a conductive material (Mo), electrically connected (313) to said pixel electrode and extending along a periphery of said pixel electrode. See pages 5-9 lines 10-40 and Figures 1-12

Ishiguro et al. fails to explicitly teach wherein the shield member extends along an entirety of a periphery of said pixel electrode.

However, Kobayashi et al., in Figures 5-8 and columns 6-8 lines 12-45, teaches a shielding film (10) that extends around the entirety of the periphery of the pixel electrode.

It would have been obvious to one of ordinary skill in the art to modify Ishiguro et al. by incorporating a shielding film that extends around the entirety of the periphery of the pixel electrode, as taught by Kobayashi et al., to increase the apertures efficiency.

Claim 2

Incorporating all arguments of Claim 1 and noting that Ishiguro et al. teaches wherein said scanning lines (202 or 302) are implemented by a first level conductive layer, said data lines (207 or 307) and said shield members (308 or 310) are implemented by a second level conductive layer and said pixel electrodes (214 or 314) are implemented by a third level conductive layer. See pages 5-9 lines 10-40 and Figures 1-12

#### Claim 3

Incorporating all arguments of Claims 1 and 2 and noting that Ishiguro et al. teaches wherein said second level conductive layer is made of a metal (Mo) or alloy and said third level conductive layer is made of a metal oxide (ITO). See pages 5-9 lines 10-40 and Figures 1-12

#### Claim 4

Incorporating all arguments of Claim 1 and noting that Ishiguro et al. teaches wherein said pixel electrode (214 or 314) is connected to said shield member via at least one through-hole (213 or 313). See pages 5-9 lines 10-40 and Figures 1-12

#### Claim 5

Incorporating all arguments of Claim 1 and noting that Ishiguro et al. teaches wherein said shield member (308) and said scanning line (302) have increased width projections overlapping with each other. Specifically noting Figures 5, 10 and 12

wherein shield member (308) and gate (302a) overlap in the TFT (324) region. See pages 5-9 lines 10-40 and Figures 1-12

Claim 6

Incorporating all arguments of Claims 1 and 5 and noting that Ishiguro et al. teaches wherein said shield member (308) and said pixel electrode (314) are connected via at least one through-hole (313) disposed in an area for said increased width projections. See pages 5-9 lines 10-40 and Figures 1-12

Claim 7

Incorporating all arguments of Claim 1 and noting that Ishiguro et al. teaches wherein said TFT (324) has a channel region extending parallel to or normal to said scanning line (302). See pages 5-9 lines 10-40 and Figures 1-12

4. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0,555,100 to Ishiguro et al. in view of 5,847,792 to Kobayashi et al. in view of Applicant's Admitted Prior Art (AAPA).

Claim 8

Incorporating all arguments of Claim 1 and noting that Ishiguro et al. fails to explicitly teach a plurality of common lines each extending parallel to and adjacent to



Art Unit: 2813

one of said scanning lines, each of said common lines having an increased width projection.

However, AAPA, in Figure 2 and pages 2-3 lines 20-15, teaches a plurality of common lines (25 or 27) each extending parallel to and adjacent to one of said scanning lines (14), each of said common lines having an increased width projection (26).

It would have been obvious to one of ordinary skill in the art to modify Ishiguro et al. by incorporating a plurality of common lines each extending parallel to and adjacent to one of said scanning lines, each of said common lines having an increased width projection, as taught by AAPA, to store electric charge; thereby controlling the electrochemical characteristics of the liquid crystal.

#### Claim 9

Incorporating all arguments of Claim 8 and noting that Ishiguro et al. teaches wherein said shield member (308) has a large width expansion traversing the periphery of the pixel electrode. As such, it would cover the increased width projection (26), in Figure 2 of AAPA, because such large width expansion is located opposite to the gate scan line (18), in Figure 2 of AAPA, and Figure 12c of Ishiguro et al. teaches this area covered by shield member (308c). See pages 5-9 lines 10-40 and Figures 1-12

***Allowable Subject Matter***

6. Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to explicitly teach, in combination with other claimed features, wherein said common lines extend across said pixels at central portions of said pixel, wherein said central portions are centrally located between adjacent ones of said plurality of scanning lines.

***Response to Arguments***

8. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

Art Unit: 2813

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David L. Hogans whose telephone number is (571) 272-1691. The examiner can normally be reached on M-F (7:30-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead Jr. can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

dh

  
CARL WHITEHEAD, JR.  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800